PowerFlex 755 AC Drive with Integrated Motion

Bringing Together the Powerful Performance of Integrated Motion and EtherNet/IP™

Integrated Motion on EtherNet/IP™

- Enjoy all the benefits and simplicity of Rockwell Automation® Integrated Motion on EtherNet/IP. Get complete machine support on a single, flexible EtherNet/IP network architecture.

- Rockwell Automation Integrated Motion on EtherNet/IP uses CIP Motion™ and CIP Sync™ technology from ODVA, all built on the Common Industrial Protocol (CIP). Global standards help ensure consistency and interoperability

- EtherNet/IP uses standard, unmodified Ethernet, and allows you to effectively manage real-time control and information flow for improved plant-wide optimization, more informed decision-making and better business performance

- Time synchronization of drives, I/O and other EtherNet/IP compliant devices provides the performance to help solve the most challenging applications

- A single software package, RSLogix 5000, provides complete system support including motion configuration, programming, commissioning, diagnostics and drive maintenance

- Use of standard Ethernet allows you to connect to a large number of business, commercial and industrial devices; there's no need for proprietary hardware or software

Embedded Safety

With safety options that can be easily integrated into the AC drive helps to:

- Lower Total System Cost – fewer components and wire terminations
- Enhance operator safety
- Improve machine availability through reduced downtime
- Simplify installation and commissioning
- Capture excellent machine information and diagnostics

Achieve a new level of machine flexibility and functionality

The PowerFlex 755 drive is aimed to maximize your investment and help improve productivity. Now with the added capability of integrated motion, for the first time, PowerFlex and Kinetix drives can be on the same network – EtherNet/IP – and configured, programmed and controlled using RSLogix 5000 via motion instruction sets.

Integrated Motion on EtherNet/IP not only provides high performance closed- and open-loop drive control on a single network but with motion profiles and instructions embedded in the controller, helps ensure device precision and synchronization. Add in safety options and you have an AC drive that can make a difference in your machine.

When you move to Integrated Motion on EtherNet/IP, you can benefit from complete machine support on a single, flexible network, eliminating the need for dedicated networks and control modules.

LISTEN.
THINK.
SOLVE.®

Allen-Bradley • Rockwell Software

Rockwell Automation

PowerFlex 755 AC Drive with Integrated Motion

Integrating the PowerFlex 755 with ControlLogix controllers through Integrated Motion allows you to expand your system solutions to include drives with a higher power range, wider selection for feedback and motor support along with configuring, controlling, and monitoring via RSLogix 5000 for their systems.

Improve performance with drive control performed by the programmable automation controller.

- Actual drive parameters reside in PAC
- Actual drive program resides in PAC
- Actual drive control resides in the PAC

Fully integrated motion support for PowerFlex 755 connected with EtherNet/IP. Configuration is streamlined with motion profiles and instruction sets in the ControlLogix controller

- Motion programming, configuration, commissioning, and motion tools in RSLogix 5000 allow you to:
- Configure drive and I/O
- Configure up to 100 axes
- Monitor drive status and time-stamped diagnostics
- Synchronized position and velocity control
  - Multi-axis
  - Kinematics
  - P-caming
  - Electronic gearing
  - Point to point

- Create user defined data types to easily represent specific components of your application in one structure

Application programs can be developed independent of the drive

- Use PowerFlex 755 drives along with Allen-Bradley Kinetix servo drives without application program impact

Support induction and permanent magnet motors, including Allen-Bradley MP-Series, RDD-Series and HPK-Series servo motors for a variety of applications

Supports multiple feedback interfaces for a wide range of applications

- Incremental, EnDat and Hiperface for Stegmann and Heidenhain high resolution feedback, SSI and BiSS for rotary and linear applications

SYSTEM REQUIREMENTS
PowerFlex 755 with Integrated Motion

Use these high performance products when putting together an Integrated Motion system using the PowerFlex 755:

RSLogix 5000 Software*
The only software you'll need for programming, configuration, diagnostics and maintenance

ControlLogix® L6X or L7X Controller with a 1756-ENxT EtherNet/IP module – Supports as many as 255 axes per controller

Managed or unmanaged Stratix switches – based on your application and topology

Any of several hundred industrial devices using EtherNet/IP – including I/O, robots, smart actuators, torque tools, etc.

DriveToools and DriveExplorer can continue to be used with PowerFlex 755 drives with Integrated Motion for drive monitoring, maintenance and troubleshooting.

Graphical Motion Profile Editor   Instruction Based Programming
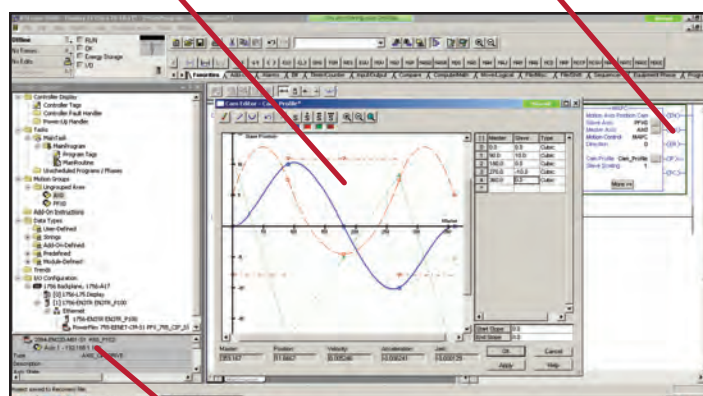
Drive Status and Diagnostics

RSLogix 5000 software provides complete motion support for the Kinetix 6500 servo drive and PowerFlex 755 VFD drive for standardized operation and consistent behavior of the drives. The common user experience simplifies drive use.

*RSLogix 5000 support for PowerFlex 755 with Integrated Motion available August 2010

EtherNet/IP–A Single Network for Complete Machine Control

Integrated Motion

Connect Your Entire Enterprise

Benefit from the EtherNet/IP network for complete machine control that simplifies and enhances machine design.

- Low cost, high performance and easy to use as compared to a multi-network architecture
- Easily integrate any PowerFlex drive, I/O, smart actuators and any other EtherNet/IP connected device

EtherNet/IP

Kinetix 6500

Integrated Motion

Use a single software package - RSLogix 5000 - for complete system support,including motion configuration. Benefit from a common user experience using the same motion instruction sets for configuring, programming, commissioning, and diagnosing a PowerFlex 755 in an Integrated Motion application.

PowerFlex Drives

PowerFlex 755

EtherNet/IP is Established

- Real-Time Control Since 2001
- More than 2 million nodes installed
- More than 250 vendors with support for more than 850 devices
- Used in more than 80 countries

Unlike other Ethernet-based solutions, EtherNet/IP does not require use of non-standard infrastructure components and can be integrated into your plant-wide Ethernet network without the use of gateways or routers. The use of standard Ethernet allows you to protect your investment by using established technology that is being advanced throughout global industries.

The right topology for your machine

- Get machine flexibility with support for any Ethernet topology
- Device level star, hybrid, ring and linear topologies
- Mix drives and any other EtherNet/IP device on a common subnet
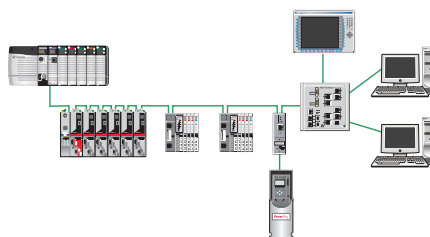
A hybrid topology is cost-effective for a broad range of devices with varying connectivity.
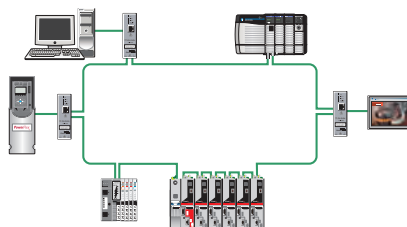
Device Level Ring is an ODVA standard and requires no additional hardware to implement. This single fault tolerant network provides resiliency.

Linear Ethernet segments greatly extend the length of the application. There's no need to run cables from each device back to a centralized switch.

PowerFlex 755 Safety Benefits

Safety options can help provide reduced downtime paired with an increase in productivity while protecting your personnel and equipment.

Safe Speed Monitor

With the Safe Speed Monitor option you can safely monitor and control the speed of your application which allows operators to perform process or maintenance work without stopping the machine.

- When necessary, monitor the speed of your application. If in excess of the safe speed you have defined, initiate Safe Stop
- SIL CL3, Cat. 4, PL e safety performance
- Configuration over web server and IE
- Offers complete flexibility for input and output device selection
- Provides support for multiple built-in safety functions for the PowerFlex 755 drives, including:
  - Safe Stop
  - Safe limited speed
  - Safe direction monitoring
  - Enabling switch control
  - Zero speed monitoring
  - Safe maximum speed
  - Door monitoring and control
  - Safe Max Accel monitoring

The PowerFlex 755 with the 20-750-S1 safety option, provides a TUV certified safety solution that meets ISO/EN13849-1

Safe Torque-Off

Safe Torque-Off functionality offers the benefit of quick start-up after a demand on the safety system and helps reduce wear from repetitive start-ups.

- Drive output is safely disabled to eliminate motor torque without removing power from the entire machine
- SIL CL3, Cat. 3, PL e safety performance
- Provides substantial wiring simplification and excellent safety performance
- Low Total Cost of Ownership (TCO) compared with competitive alternatives and provides safety ratings up to and including PLe/SIL3 and CAT 3.

In applications where the speed needs to be controlled and monitored, the Safe-Speed Monitor option for the PowerFlex 750-Series combines Safe Torque-Off capability with integrated safety relay functionality and the Safe-Speed Control technology in one hardware option to provide safety ratings up to and including PLe/SIL3 and Cat 4.

These safety options can help provide reduced downtime paired with an increase in productivity while protecting your personnel and equipment.

PowerFlex 755 AC Drive

The PowerFlex 755 offers more selection for control and supporting hardware options than any other AC drive in its class including:

- **Standard embedded Ethernet port** allows you to easily configure, control and collect drive data over an EtherNet/IP network
- **Predictive diagnostics** allow the PowerFlex 755 to keep track of information that affects the life of its cooling fans, relay outputs, and can be programmed to monitor the run time hours for machine or motor bearings, giving you advanced notification to help prevent unplanned downtime
- **Option Cards – Five (5) option slots** capable of accepting a combination of options for control, communications, I/O, feedback, safety and auxiliary control power allowing you to meet your specific application requirements with scalable control and hardware options
- **Safe Torque-Off and Safe Speed Monitor Safety options** help protect personnel and equipment, conserve space in panels, minimize downtime, and provide a choice for safety levels depending on your application requirements.
- **Factory and field installable enclosure options** are available to meet most environmental requirements.

Motor Control	• Vector Control w/FORCE Technology with and without an encoder
	• Sensorless Vector Control • Volts per Hertz
	• Permanent Magnet Motor Control
Ratings 400-480V	• 0.75...400 kW • 1...650 Hp
Enclosure Types	• IP00/IP20, NEMA/UL Open Type
	• Flange Mount Back: IP66, NEMA/UL Type 4X
	• IP54, NEMA/UL Type 12
Standards and Certifications	• UL, CE, cUL, C-Tick, SEMI F47, GOST-R
	• TUV FS ISO/EN13849-1 (EN954-1) for Safe Torque-Off and Safe Speed Monitor options
	• ROHS compliant materials
Conformal Coating	• Standard
Integrated Safety	• Safe Torque-Off SIL CL3, PLe, Cat 3
	• Safe Speed Monitor SIL CL3, PLe, Cat 4